CLAIM(S)

What is claimed is :

1. A process for multilayer coating of substrates which comprises
a) applying a filler layer of a filler coating composition to a substrate,
b) curing the resultant filler layer by irradiation with high energy radiation and
c) applying a top coat layer to the cured filler layer and curing the top coat layer,
whereby the filler coating composition comprises
A) at least one binder capable of free-radical polymerization having fewer than three olefinic double bonds per molecule,
B) at least one ester of alpha,beta-olefinically unsaturated monocarboxylic acids capable of free-radical polymerization having one olefinic double bond per molecule and
C) at least one compound having at least one phosphoric acid group.

2. The process according to claim 1, wherein the top coat layer comprises a colored and/or special effect base coat coating composition and a transparent clear coat coating composition applied over the base coat coating composition.

3. The process according to claim 1, wherein the top coat layer comprises a pigmented one-layer top coat coating composition.

4. The process according to claim 1, wherein the filler coating composition comprises 10-80 weight-% of component A) and 20-90 wt.% of component B) and wherein the weight percentages of component A) and B) add up to 100 wt.%.

5. The process according to claim 1, wherein the filler coating composition comprises 1-15 weight-% of component C), relative to the total quantity of the filler coating composition.

6. The process according to claim 1, wherein the filler coating composition comprises as component A) at least one binder capable of free-radical polymerization having 1.5 to 2.5 olefinic double bonds per molecule.

7. The process according to claim 1, wherein the filler coating composition comprises as component B) at least one (meth)acrylic acid ester with cycloaliphatic alcohols.

8. The process according to claim 7, wherein the filler coating composition comprises as component B) isobornyl (meth)acrylate.

9. The process according to claim 1, wherein the filler coating composition comprises as component C) at least one compound having at least one phosphoric acid group and at least one free-radically olefinic double bond.

10. The process according to claim 9, wherein the filler coating composition comprises as component C) at least one (meth)acryloyl-modified phosphoric acid derivative.

11. The process according to claim 1, wherein it is a process for repair coating of substrates.

12. The process according to claim 1, wherein it is a process for applying automotive, automotive part and /or industrial coatings.